Bruhat Bangalore Mahanagara Palike

Executive Engineer

Bytarayanapura Division

QUALITY REPORT

(10th & Part Bill)

Name of Work : PACKAGE NO-6 (CONSIST OF 14 WORKS)

Est. Cost: 1500.00 LAKHS
Job Code: 009-23-000003

MECADEZ
Insight Makes It Happen

Mecadez Core Technologies Private limited
Project Management Consultancy Services

Registered Office: No.80, Aniketana,14th 'B' Main, West of Chord Road, 2nd Stage, 2nd Phase, Mahalakshmipuram, Bengaluru-560086
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Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	Plain Cement Concrete (1:3:6)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
I	**Cement**	100.44	OPC 43 Grade		
1	Consistency test		1Test / Source of Supply	1	1
2	Fineness test		1Test / Source of Supply	1	1
3	Soundness test		1Test / Source of Supply	1	1
4	Compressive strength test				
i	7-days		1Test / Source of Supply	1	1
ii	28-days		1Test / Source of Supply	1	1
II	**Fine Aggregates**				
5	Gradation test		1Test / Day	1	1
III	**Coarse aggregates**				
6	Gradation test		1Test / Day	1	1
7	Water absorption test		Regular Intervals	1	1
8	Impact test		1Test / Source of Supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXECUTIVE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Consistency test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	18-Nov-2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
1	Weight of Cement	400	400	400	400	400
2	Percentage of water added (%)	27	28.5	29.5	30	31
3	Weight of Water (gm)	108	114	118	120	124
4	Initial Reading of Plunger (mm)	40	40	40	40	40
5	Difference (mm)	22	18	16	13	5.5

Results: Standard Consistency of Cement: 31.00%

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signatory

8B-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Fineness test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (Part 5) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	18-Nov-2022

Sl. No.	Determination	Trial 1	Trial 2
1	Weight of Cement before sieve (gm)	100	100
2	Weight of residue retained on 90um sieve (gm)	6.5	5.9
3	Percentage retained (%)	6.5	5.9
4	Average Percentage retained (%)	6.20	

Results: Residue of cement is: 6.20%
Comments: Maximum allowable residue by mass for ordinary portlad cement is 10%
Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

AE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Soundness test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (Part 3) -1988 & Specification for Road & Bridge Works, MORT&H, Rev-V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	18-Nov-2022

Sl. No.	Description	Trial 1	Trial 2	Trial 3
1	Initial Distance between the indicator points of Lechatelier mould	11	10	11
2	Final Distance between the indicator points of Lechatelier mould	16	18	15
3	Difference or expansion	5	8	4
4	Average Differences or Expansion in mm		5.67	

Results: Difference in Expansion of Cement: 5.67 mm
Comments: Maximum allowable Expansion of cement is 10 mm.

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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	29-Nov-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	7	-	0.871	70.6x70.6x70.6	2302	167	4984.36	33.50	34.31
2	43	7	-	0.873	70.6x70.6x70.6	2415	175	4984.36	35.11	

Results: 7-days Compressive strength of cement is 34.31 N/mm^2

Comments: 7-days Compressive strength of cement should not be less than 33 N/mm^2

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	20-Dec-2022

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (N/mm2)
1	43	28	-	0.892	70.6x70.6x70.6	2287.00	224	4984.36	44.94	44.34
2	43	28	-	0.91	70.6x70.6x70.6	2316.00	218	4984.36	43.74	

Results: 28-days Compressive strength of cement is 44.34 N/mm^2

Comments: 28-days Compressive strength of cement should not be less than 43 N/mm^2

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

AE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Fine Aggregates
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	19-Nov-2022

Weight of Sample(gram): 200

Sl No.	IS Sieve Size	Weight retained	% retained	% Cumulative	Cumulative % of Passing		Remarks
					% Passing	Gradation limits	
1	10 mm	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone ll Specification for PCC
2	4.75 mm	17.25	8.63	8.63	91.38	90-100	
3	2.36 mm	13.54	6.77	15.40	84.61	75-100	
4	1.18 mm	35.69	17.85	33.24	66.76	55-90	
5	600 µ	52.87	26.44	59.68	40.33	35-59	
6	300 µ	43.54	21.77	81.45	18.56	8-30	
7	150 µ	28.69	14.35	95.79	4.21	0-10	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

BB AE-09

Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	19-Nov-2022

Weight of Sample: 4000 gms

Sl. No	I.S. Sieve size	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	31.50	0	0.00	0.00	100.00	100	
2	26.50	345.14	8.63	8.63	91.37	85-95	
3	19.00	325.56	8.14	16.77	83.23	68-88	
4	9.50	887.25	22.18	38.95	61.05	45-65	
5	4.75	328.47	8.21	47.16	52.84	30-55	
6	0.60	995.63	24.89	72.05	27.95	8-30	
7	0.15	591.36	14.78	86.84	13.16	5-15	
8	0.08	351.87	8.80	95.63	4.37	0-5	

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

02-12-09

Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 3) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	19-Nov-2022

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of SSD sample	W_1 g	763	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2095	2098	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1332	1335	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2130	2123	
5	Weight of water equal to the Volume of the Aggregate	W_3- W_s	798	788	
6	Weight of Oven dried Aggregate	W_4g	2091	2089	
7	Specific Gravity	W_4/(W_3- W_s)	2.62	2.65	2.64
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.75	2.77	2.76
9	Water Absorption	(W_4- W_3)*100/ W_4	1.87	1.63	1.75

Comments: Maximum allowable Aggregate Water Absorption value is 2.0%.

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For Mecadez Core Technologies Private Limited

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

BB/AB-09

Impact test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Plain Cement Concrete (1:3:6)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	17/Nov/2022
Testing Date	19-Nov-2022

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1255	1354
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	295	394
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	94	92
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	201	302
6	Aggregate Impact Value (w4 / w3)x100	%	31.86	23.35
7	Specified Limit	%	45.00	

Results: Average Aggregate Impact Value: **27.61** %

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	M20 Concrete For Drain Raft			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	99.94	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	5	5
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecadez Core Technologies Private Limited

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	25-Nov-2022
Tested Date	2-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.26	150*150*150	2447.41	322.00	0.0225	14.31	14.41	14.42
2	20	7	8.21	150*150*150	2432.59	329.00	0.0225	14.62		
3	20	7	8.26	150*150*150	2447.41	322.00	0.0225	14.31		
4	20	7	8.15	150*150*150	2414.81	327.00	0.0225	14.53	14.43	
5	20	7	8.16	150*150*150	2417.78	324.00	0.0225	14.40		
6	20	7	8.12	150*150*150	2405.93	323.00	0.0225	14.36		

Results: 7-days Compressive strength of Concrete is 14.42 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

2-12-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	25-Nov-2022
Tested Date	2-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.35	150*150*150	2474.07	328.00	0.0225	14.58	14.47	14.46
2	20	7	8.24	150*150*150	2441.48	325.00	0.0225	14.44		
3	20	7	8.32	150*150*150	2465.19	324.00	0.0225	14.40		
4	20	7	8.27	150*150*150	2450.37	320.00	0.0225	14.22	14.44	
5	20	7	8.31	150*150*150	2462.22	327.00	0.0225	14.53		
6	20	7	8.22	150*150*150	2435.56	328.00	0.0225	14.58		

Results: 7-days Compressive strength of Concrete is 14.46 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

DR-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	25-Nov-2022
Tested Date	2-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.27	150*150*150	2450.37	330.00	0.0225	14.67	14.56	14.55
2	20	7	8.35	150*150*150	2474.07	327.00	0.0225	14.53		
3	20	7	8.24	150*150*150	2441.48	326.00	0.0225	14.49		
4	20	7	8.31	150*150*150	2462.22	322.00	0.0225	14.31	14.53	
5	20	7	8.14	150*150*150	2411.85	329.00	0.0225	14.62		
6	20	7	8.17	150*150*150	2420.74	330.00	0.0225	14.67		

Results: 7-days Compressive strength of Concrete is 14.55 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	3-Dec-2022
Tested Date	10-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.25	150*150*150	2444.44	332.00	0.0225	14.76	14.65	14.64
2	20	7	8.34	150*150*150	2471.11	329.00	0.0225	14.62		
3	20	7	8.28	150*150*150	2453.33	328.00	0.0225	14.58		
4	20	7	8.14	150*150*150	2411.85	324.00	0.0225	14.40	14.62	
5	20	7	8.24	150*150*150	2441.48	331.00	0.0225	14.71		
6	20	7	8.12	150*150*150	2405.93	332.00	0.0225	14.76		

Results: 7-days Compressive strength of Concrete is 14.64 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	3-Dec-2022
Tested Date	10-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.21	150*150*150	2432.59	334.00	0.0225	14.84	14.74	14.73
2	20	7	8.14	150*150*150	2411.85	331.00	0.0225	14.71		
3	20	7	8.32	150*150*150	2465.19	330.00	0.0225	14.67		
4	20	7	8.14	150*150*150	2411.85	326.00	0.0225	14.49	14.71	
5	20	7	8.17	150*150*150	2420.74	333.00	0.0225	14.80		
6	20	7	8.19	150*150*150	2426.67	334.00	0.0225	14.84		

Results: 7-days Compressive strength of Concrete is 14.73 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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ii. The results relate only to the items tested.

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Mecadez Core Technologies Private Limited

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BR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	25-Nov-2022
Tested Date	23-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.71	150*150*150	2580.74	451.00	0.0225	20.04	20.37	20.37
2	20	28	8.69	150*150*150	2574.81	459.00	0.0225	20.40		
3	20	28	8.58	150*150*150	2542.22	465.00	0.0225	20.67		
4	20	28	8.72	150*150*150	2583.70	457.00	0.0225	20.31	20.37	
5	20	28	8.75	150*150*150	2592.59	451.00	0.0225	20.04		
6	20	28	8.68	150*150*150	2571.85	467.00	0.0225	20.76		

Results: 28-days Compressive strength of Concrete is 20.37 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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17-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	25-Nov-2022
Tested Date	23-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.59	150*150*150	2545.19	454.00	0.0225	20.18	20.47	20.44
2	20	28	8.48	150*150*150	2512.59	457.00	0.0225	20.31		
3	20	28	8.87	150*150*150	2628.15	471.00	0.0225	20.93		
4	20	28	8.64	150*150*150	2560.00	467.00	0.0225	20.76	20.40	
5	20	28	8.63	150*150*150	2557.04	452.00	0.0225	20.09		
6	20	28	8.67	150*150*150	2568.89	458.00	0.0225	20.36		

Results: 28-days Compressive strength of Concrete is 20.44 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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23-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	25-Nov-2022
Tested Date	23-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.68	150*150*150	2571.85	456.00	0.0225	20.27	20.56	20.53
2	20	28	8.57	150*150*150	2539.26	459.00	0.0225	20.40		
3	20	28	8.96	150*150*150	2654.81	473.00	0.0225	21.02		
4	20	28	8.73	150*150*150	2586.67	469.00	0.0225	20.84	20.49	
5	20	28	8.72	150*150*150	2583.70	454.00	0.0225	20.18		
6	20	28	8.76	150*150*150	2595.56	460.00	0.0225	20.44		

Results: 28-days Compressive strength of Concrete is 20.53 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

23-DEC-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	3-Dec-2022
Tested Date	31-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.78	150*150*150	2601.48	458.00	0.0225	20.36	20.65	20.61
2	20	28	8.67	150*150*150	2568.89	461.00	0.0225	20.49		
3	20	28	9.06	150*150*150	2684.44	475.00	0.0225	21.11		
4	20	28	8.83	150*150*150	2616.30	471.00	0.0225	20.93	20.58	
5	20	28	8.82	150*150*150	2613.33	456.00	0.0225	20.27		
6	20	28	8.86	150*150*150	2625.19	462.00	0.0225	20.53		

Results: 28-days Compressive strength of Concrete is 20.61 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

02-01-09

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Raft
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	3-Dec-2022
Tested Date	31-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.87	150*150*150	2628.15	460.00	0.0225	20.44	20.74	20.70
2	20	28	8.76	150*150*150	2595.56	463.00	0.0225	20.58		
3	20	28	9.15	150*150*150	2711.11	477.00	0.0225	21.20		
4	20	28	8.92	150*150*150	2642.96	473.00	0.0225	21.02	20.67	
5	20	28	8.91	150*150*150	2640.00	458.00	0.0225	20.36		
6	20	28	8.95	150*150*150	2651.85	464.00	0.0225	20.62		

Results: 28-days Compressive strength of Concrete is 20.70 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

BR-09

Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	M20 Concrete For Drain Wall			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	112.37	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	6	6
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT ENGINEER

Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	2-Dec-2022
Tested Date	9-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.25	150*150*150	2444.44	321.00	0.0225	14.27	14.27	14.19
2	20	7	8.31	150*150*150	2462.22	325.00	0.0225	14.44		
3	20	7	8.14	150*150*150	2411.85	317.00	0.0225	14.09		
4	20	7	8.18	150*150*150	2423.70	318.00	0.0225	14.13	14.10	
5	20	7	8.24	150*150*150	2441.48	315.00	0.0225	14.00		
6	20	7	8.11	150*150*150	2402.96	319.00	0.0225	14.18		

Results: 7-days Compressive strength of Concrete is 14.19 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	2-Dec-2022
Tested Date	9-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.24	150*150*150	2441.48	329.00	0.0225	14.62	14.46	14.36
2	20	7	8.27	150*150*150	2450.37	324.00	0.0225	14.40		
3	20	7	8.14	150*150*150	2411.85	323.00	0.0225	14.36		
4	20	7	8.28	150*150*150	2453.33	329.00	0.0225	14.62	14.27	
5	20	7	8.17	150*150*150	2420.74	319.00	0.0225	14.18		
6	20	7	8.16	150*150*150	2417.78	315.00	0.0225	14.00		

Results: 7-days Compressive strength of Concrete is 14.36 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	2-Dec-2022
Tested Date	9-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.27	150*150*150	2450.37	331.00	0.0225	14.71	14.55	14.45
2	20	7	8.34	150*150*150	2471.11	326.00	0.0225	14.49		
3	20	7	8.21	150*150*150	2432.59	325.00	0.0225	14.44		
4	20	7	8.25	150*150*150	2444.44	331.00	0.0225	14.71	14.36	
5	20	7	8.15	150*150*150	2414.81	321.00	0.0225	14.27		
6	20	7	8.19	150*150*150	2426.67	317.00	0.0225	14.09		

Results: 7-days Compressive strength of Concrete is 14.45 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Authorised Signature

9-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	9-Dec-2022
Tested Date	16-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.21	150*150*150	2432.59	333.00	0.0225	14.80	14.64	14.54
2	20	7	8.17	150*150*150	2420.74	328.00	0.0225	14.58		
3	20	7	8.14	150*150*150	2411.85	327.00	0.0225	14.53		
4	20	7	8.25	150*150*150	2444.44	333.00	0.0225	14.80	14.44	
5	20	7	8.17	150*150*150	2420.74	323.00	0.0225	14.36		
6	20	7	8.19	150*150*150	2426.67	319.00	0.0225	14.18		

Results: 7-days Compressive strength of Concrete is 14.54 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	9-Dec-2022
Tested Date	16-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	7	8.31	150*150*150	2462.22	335.00	0.0225	14.89	14.73	14.63
2	20	7	8.26	150*150*150	2447.41	330.00	0.0225	14.67		
3	20	7	8.23	150*150*150	2438.52	329.00	0.0225	14.62		
4	20	7	8.34	150*150*150	2471.11	335.00	0.0225	14.89	14.53	
5	20	7	8.26	150*150*150	2447.41	325.00	0.0225	14.44		
6	20	7	8.28	150*150*150	2453.33	321.00	0.0225	14.27		

Results: 7-days Compressive strength of Concrete is 14.63 N/mm2

Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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ii. The results relate only to the items tested.

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Mecadez Core Technologies Private Limited

Authorised Signature

DR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	9-Dec-2022
Tested Date	16-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	7	8.41	150*150*150	2491.85	337.00	0.0225	14.98	14.81	14.72
2	20	7	8.36	150*150*150	2477.04	332.00	0.0225	14.76		
3	20	7	8.33	150*150*150	2468.15	331.00	0.0225	14.71		
4	20	7	8.44	150*150*150	2500.74	337.00	0.0225	14.98	14.62	
5	20	7	8.36	150*150*150	2477.04	327.00	0.0225	14.53		
6	20	7	8.38	150*150*150	2482.96	323.00	0.0225	14.36		

Results: 7-days Compressive strength of Concrete is 14.72 N/mm2
Comments: 7-days Compressive strength of M20 Concrete should not be less than 14 N/mm2

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	2-Dec-2022
Tested Date	30-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.69	150*150*150	2574.81	468.00	0.0225	20.80	20.65	20.65
2	20	28	8.72	150*150*150	2583.70	454.00	0.0225	20.18		
3	20	28	8.52	150*150*150	2524.44	472.00	0.0225	20.98		
4	20	28	8.68	150*150*150	2571.85	461.00	0.0225	20.49	20.65	
5	20	28	8.64	150*150*150	2560.00	472.00	0.0225	20.98		
6	20	28	8.90	150*150*150	2637.04	461.00	0.0225	20.49		

Results: 28-days Compressive strength of Concrete is 20.65 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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30-DR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	2-Dec-2022
Tested Date	30-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.73	150*150*150	2586.67	471.00	0.0225	20.93	20.58	20.68
2	20	28	8.62	150*150*150	2554.07	461.00	0.0225	20.49		
3	20	28	8.68	150*150*150	2571.85	457.00	0.0225	20.31		
4	20	28	8.71	150*150*150	2580.74	467.00	0.0225	20.76	20.79	
5	20	28	8.88	150*150*150	2631.11	471.00	0.0225	20.93		
6	20	28	8.65	150*150*150	2562.96	465.00	0.0225	20.67		

Results: 28-days Compressive strength of Concrete is 20.68 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	2-Dec-2022
Tested Date	30-Dec-2022

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.82	150*150*150	2613.33	473.00	0.0225	21.02	20.67	20.77
2	20	28	8.71	150*150*150	2580.74	463.00	0.0225	20.58		
3	20	28	8.77	150*150*150	2598.52	459.00	0.0225	20.40		
4	20	28	8.80	150*150*150	2607.41	469.00	0.0225	20.84	20.87	
5	20	28	8.97	150*150*150	2657.78	473.00	0.0225	21.02		
6	20	28	8.74	150*150*150	2589.63	467.00	0.0225	20.76		

Results: 28-days Compressive strength of Concrete is 20.77 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	9-Dec-2022
Tested Date	6-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	8.92	150*150*150	2642.96	475.00	0.0225	21.11	20.76	20.86
2	20	28	8.81	150*150*150	2610.37	465.00	0.0225	20.67		
3	20	28	8.87	150*150*150	2628.15	461.00	0.0225	20.49		
4	20	28	8.90	150*150*150	2637.04	471.00	0.0225	20.93	20.96	
5	20	28	9.07	150*150*150	2687.41	475.00	0.0225	21.11		
6	20	28	8.84	150*150*150	2619.26	469.00	0.0225	20.84		

Results: 28-days Compressive strength of Concrete is 20.86 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	9-Dec-2022
Tested Date	6-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	20	28	9.01	150*150*150	2669.63	477.00	0.0225	21.20	20.84	20.95
2	20	28	8.90	150*150*150	2637.04	467.00	0.0225	20.76		
3	20	28	8.96	150*150*150	2654.81	463.00	0.0225	20.58		
4	20	28	8.99	150*150*150	2663.70	473.00	0.0225	21.02	21.05	
5	20	28	9.16	150*150*150	2714.07	477.00	0.0225	21.20		
6	20	28	8.93	150*150*150	2645.93	471.00	0.0225	20.93		

Results: 28-days Compressive strength of Concrete is 20.95 N/mm2

Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	M20 Concrete For Drain Wall
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	6
Casting Date	9-Dec-2022
Tested Date	6-Jan-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength
1	20	28	9.11	150*150*150	2699.26	479.00	0.0225	21.29	20.93	21.04
2	20	28	9.00	150*150*150	2666.67	469.00	0.0225	20.84		
3	20	28	9.06	150*150*150	2684.44	465.00	0.0225	20.67		
4	20	28	9.09	150*150*150	2693.33	475.00	0.0225	21.11	21.14	
5	20	28	9.26	150*150*150	2743.70	479.00	0.0225	21.29		
6	20	28	9.03	150*150*150	2675.56	473.00	0.0225	21.02		

Results: 28-days Compressive strength of Concrete is 21.04 N/mm2
Comments: 28-days Compressive strength of M20 Concrete should not be less than 20 N/mm2

Note:
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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	230mm Precast Slab Core Cut			
		Quantity Sqm	Frequency of Tests	Tests Required	Tests Carried Out
	Core Cutting				
1	Compressive strength test	29.64	One Test Per Source of supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	230mm Precast Slab Core Cut
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Test Location	Laboratory
Sample No	1
Tested Date	9-Dec-2022

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
1	100.00	99.84	2.25	2868.23	0.9984	0.89	131.371	16.72	18.06	20.25	25.31
2	100.00	98.63	2.31	2980.84	0.9863	0.89	130.35	16.59	17.92	20.12	25.15
3	100.00	98.79	2.28	2937.36	0.9879	0.89	129.01	16.42	17.73	19.91	24.89

Results: Compressive strength of 230mm thick Precast Slab is 25.12 N/mm2

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	100mm Precast Slab Core Cut			
		Quantity Sqm	Frequency of Tests	Tests Required	Tests Carried Out
	Core Cutting				
1	Compressive strength test	345.12	One Test Per Source of supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecadez Core Technologies Private Limited

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compressive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	100mm Precast Slab Core Cut
Contractor	M/s SMLP Aspahalts
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Test Location	Laboratory
Sample No	1
Tested Date	17-Dec-2022

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (Kg/m³)	H/D	Correction Factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm²)	Correction Factor for the dia. (Strength of the Core X 1.08)	Corrected Cylinder Compressive Strength (N/mm²)	Equivalent Cube Compressive Strength (N/mm²)
1	100.00	98.47	1.21	1563.93	0.9847	0.89	132.157	16.82	18.17	20.40	25.50
2	100.00	99.85	1.27	1618.79	0.9985	0.89	131.37	16.72	18.06	20.25	25.31
3	100.00	98.55	1.24	1601.4	0.9855	0.89	132.08	16.81	18.15	20.39	25.49

Results: Compressive strength of 100mm thick Precast Slab is 25.43 N/mm2

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR**

Contractor **M/s SMLP Asphalts, Prop.Sri B B Umesha**

Sl. No	Particulars of the Tests	Dry Lean Cement Concrete (1:5:10)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
I	**Cement**	66.78	OPC53 Grade		
1	Compressive strength test				
i	7-days		3 Samples /1000 sqm	1	1
ii	28-days		3 Samples /1000 sqm	1	1
II	**Fine Aggregates**				
2	Gradation test		1Test / Day	1	1
III	**Coarse aggregates**				
3	Gradation test		1Test / Day	1	1
4	Water absorption test		Regular Intervals	1	1
5	Impact test		1Test / Source of Supply	1	1

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Mecadez Core Technologies Private Ltd.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Banashankari Sub Division
B.B.M.P, Bangalore - 97

Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Casting Date	24-Feb-2023
Testing Date	3-Mar-2023

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
1	53	7	-	0.874	70.6x70.6x70.6	2483.69	203	4984.36	40.73	41.43
2	53	7	-	0.869	70.6x70.6x70.6	2469.48	210	4984.36	42.13	

Results: 7-days Compressive strength of cement is 41.43 N/mm2

Comments: 7-days Compressive strength of cement should not be less than 40N/mm^2

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Compressive strength test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Cement
Sample No	1
Casting Date	24-Feb-2023
Testing Date	24-Mar-2023

Cube	Cement Grade	Age at Test (Days)	Slump (mm)	Weight (kg)	Dimension (LxWxH)	Density (kg/m3)	Max. Load (KN)	Area (mm2)	Compressive Strength (N/mm2)	Average Sample (n/mm2)
1	53	28	-	0.89	70.6x70.6x70.6	2529	271	4984.36	54.37	54.87
2	53	28	-	0.92	70.6x70.6x70.6	2614.4	276	4984.36	55.37	

Results: 28-days Compressive strength of cement is 54.87 N/mm2

Comments: 28-days Compressive strength of cement should not be less than 53N/mm^2

Note:

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Fine Aggregates
Sample No	1
Sample	20-Feb-2023
Tested Date	24-Feb-2023

Weight of Sample(gram): 200

Sl No.	IS Sieve Size	Weight retained	% retained	% Cumulative	Cumulative % of Passing		Remarks
					% Passing	Gradation limits	
1	10 mm	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone ll Specification
2	4.75 mm	13.69	6.85	6.85	93.16	90-100	
3	2.36 mm	25.41	12.71	19.55	80.45	75-100	
4	1.18 mm	30.31	15.16	34.71	65.30	55-90	
5	600 µ	45.91	22.96	57.66	42.34	35-59	
6	300 µ	41.32	20.66	78.32	21.68	8-30	
7	150 µ	23.67	11.84	90.16	9.85	0-10	

Note:

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Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Gradation test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection	20-Feb-2023
Tested Date	21-Feb-2023

Weight of Sample: 4000 gms

Sl. No	I.S. Sieve size	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	31.50	0.00	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Zone II Specification
2	26.50	417.36	10.43	10.43	89.57	85-95	
3	19.00	554.21	13.86	24.29	75.71	68-88	
4	9.50	780.45	19.51	43.80	56.20	45-65	
5	4.75	575.23	14.38	58.18	41.82	30-55	
6	0.60	1024.32	25.61	83.79	16.21	8-30	
7	0.15	310.28	7.76	91.55	8.45	5-15	
8	0.08	235.41	5.89	97.43	2.57	0-5	

i. The results indicated above are based on the tests carried out on the sample at site.

Note:

ii. The results relate only to the items tested.

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iv. Any query regarding the report must be reported immediately.

Mecadez Core Technologies Private Limited

Authorised Signature

23-02-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Water absorption test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 3) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample	20-Feb-2023
Tested Date	21-Feb-2023

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of SSD sample	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2047	2084	
3	Weight of Saturated Aggregate in water	W_sg = W_2- W_1	1286	1321	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2082	2109	
5	Weight of water equal to the Volume of the Aggregate	W_3- W_s	796	788	
6	Weight of Oven dried Aggregate	W_4g	2043	2074	
7	Specific Gravity	W_4/(W_3- W_s)	2.57	2.63	2.60
8	Apparent Specific Gravity	W_4/(W_4- W_s)	2.70	2.75	2.73
9	Water Absorption	(W_4- W_3)*100/ W_4	1.91	1.69	1.80

Comments: Maximum allowable Aggregate Water Absorption value for PCC is 2.0%.

i. The results indicated above are based on the tests carried out on the sample at site.

Note:

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Mecadez Core Technologies Private Limited

Authorised Signature

23-Feb-23

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Impact test

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	Dry Lean Cement Concrete (1:5:10)
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Source of Material
Material	Coarse aggregates
Sample No	1
Sample Collection Date	20-Feb-2023
Tested Date	21-Feb-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1326	1336
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	366	376
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	87	87
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	279	289
6	Aggregate Impact Value (w4 / w3)x100	%	23.77	23.14
7	Specified Limit	%	45.00	

Results: Average Aggregate Impact Value: **23.45** %

Note:

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183 - Dt-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Pvt. Ltd,

Project Management and Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR**

Contractor **M/s SMLP Asphalts, Prop.Sri B B Umesha**

Sl. No	Particulars of the Tests	M30 Concrete for CC ROAD			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
IV	**Concrete**				
1	Compressive strength test	66.78	1 to 5cum=1 sample 6 to 15 cum=2 sample 16 to 30cum=3 smaple 31 to 50cum= 4 sample 51cum and above= one additonal sample for every additional 50 cum or part therof	5	5
	7-days				
	28-days				

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

consultant

contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	28-Feb-2023
Tested Date	7-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.45	150*150*150	2503.70	481.00	0.0225	21.38	21.27	21.42
2	30	7	8.51	150*150*150	2521.48	474.00	0.0225	21.07		
3	30	7	8.32	150*150*150	2465.19	481.00	0.0225	21.38		
4	30	7	8.27	150*150*150	2450.37	485.00	0.0225	21.56	21.57	
5	30	7	8.42	150*150*150	2494.81	482.00	0.0225	21.42		
6	30	7	8.33	150*150*150	2468.15	489.00	0.0225	21.73		

Results: 7-days Compressive strength of Concrete is 21.42 N/mm2

Comments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

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ii. The results relate only to the items tested.

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	28-Feb-2023
Tested Date	7-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.35	150*150*150	2474.07	478.00	0.0225	21.24	21.39	21.50
2	30	7	8.24	150*150*150	2441.48	484.00	0.0225	21.51		
3	30	7	8.19	150*150*150	2426.67	482.00	0.0225	21.42		
4	30	7	8.26	150*150*150	2447.41	492.00	0.0225	21.87	21.60	
5	30	7	8.18	150*150*150	2423.70	482.00	0.0225	21.42		
6	30	7	8.21	150*150*150	2432.59	484.00	0.0225	21.51		

Results: 7-days Compressive strength of Concrete is 21.50 N/mm2

Comments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	28-Feb-2023
Tested Date	7-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.27	150*150*150	2450.37	480.00	0.0225	21.33	21.48	21.59
2	30	7	8.29	150*150*150	2456.30	486.00	0.0225	21.60		
3	30	7	8.34	150*150*150	2471.11	484.00	0.0225	21.51		
4	30	7	8.14	150*150*150	2411.85	494.00	0.0225	21.96	21.69	
5	30	7	8.19	150*150*150	2426.67	484.00	0.0225	21.51		
6	30	7	8.29	150*150*150	2456.30	486.00	0.0225	21.60		

Results: 7-days Compressive strength of Concrete is 21.59 N/mm2

Comments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	28-Feb-2023
Tested Date	7-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.37	150*150*150	2480.00	482.00	0.0225	21.42	21.57	21.67
2	30	7	8.39	150*150*150	2485.93	488.00	0.0225	21.69		
3	30	7	8.44	150*150*150	2500.74	486.00	0.0225	21.60		
4	30	7	8.24	150*150*150	2441.48	496.00	0.0225	22.04	21.78	
5	30	7	8.28	150*150*150	2453.33	486.00	0.0225	21.60		
6	30	7	8.39	150*150*150	2485.93	488.00	0.0225	21.69		

Results: 7-days Compressive strength of Concrete is 21.67 N/mm2

Comments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

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Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	28-Feb-2023
Tested Date	7-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	7	8.46	150*150*150	2506.67	484.00	0.0225	21.51	21.66	21.76
2	30	7	8.48	150*150*150	2512.59	490.00	0.0225	21.78		
3	30	7	8.53	150*150*150	2527.41	488.00	0.0225	21.69		
4	30	7	8.33	150*150*150	2468.15	498.00	0.0225	22.13	21.87	
5	30	7	8.37	150*150*150	2480.00	488.00	0.0225	21.69		
6	30	7	8.48	150*150*150	2512.59	490.00	0.0225	21.78		

Results: 7-days Compressive strength of Concrete is 21.76 N/mm2

Comments: 7-days Compressive strength of M30 Concrete should not be less than 21.00 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	1
Casting Date	28-Feb-2023
Tested Date	28-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.78	150*150*150	2601.48	691.00	0.0225	30.71	30.46	30.39
2	30	28	8.89	150*150*150	2634.07	687.00	0.0225	30.53		
3	30	28	8.95	150*150*150	2651.85	678.00	0.0225	30.13		
4	30	28	8.74	150*150*150	2589.63	681.00	0.0225	30.27	30.31	
5	30	28	8.69	150*150*150	2574.81	678.00	0.0225	30.13		
6	30	28	8.77	150*150*150	2598.52	687.00	0.0225	30.53		

Results: 28-days Compressive strength of Concrete is 30.39 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

28-03-23

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	2
Casting Date	28-Feb-2023
Tested Date	28-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.78	150*150*150	2601.48	693.00	0.0225	30.80	30.86	30.67
2	30	28	8.74	150*150*150	2589.63	699.00	0.0225	31.07		
3	30	28	8.82	150*150*150	2613.33	691.00	0.0225	30.71		
4	30	28	8.94	150*150*150	2648.89	685.00	0.0225	30.44	30.49	
5	30	28	8.85	150*150*150	2622.22	689.00	0.0225	30.62		
6	30	28	8.81	150*150*150	2610.37	684.00	0.0225	30.40		

Results: 28-days Compressive strength of Concrete is 30.67 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	3
Casting Date	28-Feb-2023
Tested Date	28-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.87	150*150*150	2628.15	695.00	0.0225	30.89	30.95	30.76
2	30	28	8.83	150*150*150	2616.30	701.00	0.0225	31.16		
3	30	28	8.91	150*150*150	2640.00	693.00	0.0225	30.80		
4	30	28	9.03	150*150*150	2675.56	687.00	0.0225	30.53	30.58	
5	30	28	8.94	150*150*150	2648.89	691.00	0.0225	30.71		
6	30	28	8.90	150*150*150	2637.04	686.00	0.0225	30.49		

Results: 28-days Compressive strength of Concrete is 30.76 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

28-03-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	4
Casting Date	28-Feb-2023
Tested Date	28-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	8.97	150*150*150	2657.78	697.00	0.0225	30.98	31.04	30.85
2	30	28	8.93	150*150*150	2645.93	703.00	0.0225	31.24		
3	30	28	9.01	150*150*150	2669.63	695.00	0.0225	30.89		
4	30	28	9.13	150*150*150	2705.19	689.00	0.0225	30.62	30.67	
5	30	28	9.04	150*150*150	2678.52	693.00	0.0225	30.80		
6	30	28	9.00	150*150*150	2666.67	688.00	0.0225	30.58		

Results: 28-days Compressive strength of Concrete is 30.85 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:

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Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Concrete Compresive strength

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/P-3877/2022-23/QR
Mix Type	M30 Concrete for CC ROAD
Contractor	M/s SMLP Asphalts, Prop.Sri B B Umesha
Test Method	IS : 4031 (part 6)-1988 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Concrete
Sample No	5
Casting Date	28-Feb-2023
Tested Date	28-Mar-2023

Cube	Concrete Grade	Age at Test (Days)	Weight (kg)	Dimension (LxWxH)	Density (kg/m^3)	Max. Load (KN)	Area (m^2)	Compressive Strength (N/mm^2)	Avg. Sample Strength	Avg. Strength (N/mm2)
1	30	28	9.06	150*150*150	2684.44	699.00	0.0225	31.07	31.13	30.94
2	30	28	9.02	150*150*150	2672.59	705.00	0.0225	31.33		
3	30	28	9.10	150*150*150	2696.30	697.00	0.0225	30.98		
4	30	28	9.22	150*150*150	2731.85	691.00	0.0225	30.71	30.76	
5	30	28	9.13	150*150*150	2705.19	695.00	0.0225	30.89		
6	30	28	9.09	150*150*150	2693.33	690.00	0.0225	30.67		

Results: 28-days Compressive strength of Concrete is 30.94 N/mm2

Comments: 28-days Compressive strength of M30 Concrete should not be less than 30 N/mm2

Note:

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iv. Any query regarding the report must be reported immediately.

Mecadez Core Technologies Pvt. Ltd,

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

28-03-09

Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	Wet Mix Macadam (WMM)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Aggregate Impact Value	286.72	1 Test / 1000 m^3	1	1
2	Combined Flakiness & Elongation Indices		1Test / 500 m^3	1	1
3	Aggregate gradation		1Test / 200 m^3	2	2
4	Atterberg limits		1Test / 200 m^3	2	2
5	Density of Compacted Layer		1 Test / 1000m^2	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyapura Sub Division
Bangalore - 97

Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Material	Coarse Aggregate
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Sample No	1
Sample Collection Date	25-Dec-2022
Tested Date	26-Dec-2022

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1357	1343
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	397	383
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	91	87
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	306	296
6	Aggregate Impact Value (w4 / w3)x100	%	22.92	22.72
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **22.82 %**

Note:

i. The results indicated above are based on the tests carried out on the sample at site.

ii. The results relate only to the items tested.

iii. This test report should not be reproduced except in full, without written approval of this laboratory.

iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	25-Dec-2022
Tested Date	26-Dec-2022

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	37.54	19.5	0	58.5	0
31.5	25	65.41	16.95	0	-	0
25	20	1452.74	13.5	132.74	40.5	150.74
20	16	1421.87	10.8	100.87	32.4	127.87
16	12.5	951.36	8.55	146.36	25.6	153.36
12.5	10	524.25	6.75	126.25	20.2	132.25
10	6.3	257.36	4.89	79.36	14.7	86.36
	SW	4710.53	SWf	585.58	SWe	650.58

Flakiness Index	12.43	%
Elongation Index	13.81	%

Combined Flakiness and Elongation Indices : 26.24 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	25-Dec-2022
Tested Date	26-Dec-2022

Weight of Sample: 11093.00 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	231.63	2.09	2.09	97.91	95-100	
3	22.4	2900.24	26.14	28.23	71.77	60-80	
4	11.2	2105.47	18.98	47.21	52.79	40-60	
5	4.75	2250.87	20.29	67.5	32.5	25-40	
6	2.36	1405.84	12.67	80.17	19.83	15-30	
7	0.6	542.31	4.89	85.06	14.94	8-22	
8	0.075	1324.63	11.94	97	3	0-5	

Note:

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ii. The results relate only to the items tested.
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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

28-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	2
Sample Collection Date	25-Dec-2022
Tested Date	26-Dec-2022

Weight of Sample: 11143.00 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	241.87	2.17	2.17	97.83	95-100	
3	22.4	2650.32	23.78	25.95	74.05	60-80	
4	11.2	2050.53	18.4	44.35	55.65	40-60	
5	4.75	2174.62	19.52	63.87	36.13	25-40	
6	2.36	1550.69	13.92	77.79	22.21	15-30	
7	0.6	605.41	5.43	83.22	16.78	8-22	
8	0.075	1370.82	12.3	95.52	4.48	0-5	

Note:

i. The results indicated above are based on the tests carried out on the sample at site.
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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Liquid and Plastic Limit by Cone Apparatus

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Sample No	1
Sample Collection	25-Dec-2022
Tested Date	26-Dec-2022

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	**Non Plastic**	**Non Plastic**
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	Weight of dry soil, E=(C - A)	gm		
7	Water Content, D/E x 100 (%)	gm		

Comments: <6 so Non Plastic

Note:

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iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Divisio..
B.B.M.P, Bangalore - 97

Test Report
Liquid and Plastic Limit by Cone Apparatus

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Soil
Sample No	2
Sample Collection	25-Dec-2022
Tested Date	26-Dec-2022

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm	**Non Plastic**	**Non Plastic**
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm		
5	Weight of water, D=(B - C)	gm		
6	Weight of dry soil, E=(C - A)	gm		
7	Water Content, D/E x 100 (%)	gm		

Comments: <6 so Non Plastic

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Field Density Test by Sand Replacement Method

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Sample No	1
Tested Date	28-Dec-2022

Test Hole No	**1**
MDD	2.26
OMC in %	5.45
Bulk Density Ys	1.392
Weight of Sand In cone W1 (gm)	1195
Weight Of Wet soil From Hole (W2)	4941
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000
Wt Of Sand +Cylinder After Pouring (W4) gm	12905
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	2900
Volume of Hole: V= W5/ Ys	2083.33
Bulk Density Yb= W2/V (gm/cc)	2.37
Moisture Meter Reading (%)	5.2
Moisture Content : w (From Graph In %)	-
Dry Density Yd = Yb/(1+W/100)	2.25
Field Compaction(%)	99.75

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

28-12-22

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Field Density Test by Sand Replacement Method

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Wet Mix Macadam (WMM)
Contractor	M/s SMLP Aspahalts
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Sample No	2
Tested Date	28-Dec-2022

Test Hole No	**2**
MDD	2.26
OMC in %	5.45
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4947.00
Wt Of Sand +Cylinder Before Pouring (W3)gm	17000.00
Wt Of Sand +Cylinder After Pouring (W4) gm	12805.00
Wt Of Sand In Hole: W5 = W3 - W4- W1 (gm)	3000.00
Volume of Hole: V= W5/ Ys	2155.17
Bulk Density Yb= W2/V (gm/cc)	2.30
Moisture Meter Reading (%)	5.30
Moisture Content : w (From Graph In %)	-
Dry Density Yd = Yb/(1+W/100)	2.18
Field Compaction(%)	96.45

Note:

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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Pvt. Ltd.

Authorised Signature

28-12-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Consultancy Services
Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	Dense Graded Bituminous Macadam (DBM)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	57.34	2 Test / lot	2	2
2	Aggregate Impact Value		1 Test / 350 m^3	1	1
3	Combined Flakiness & Elongation		1 Test / 350 m^3	1	1
4	Aggregate Stripping Value		1Test / Source of Supply	1	1
5	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
6	Aggregate gradation		2 Test / day	2	2
7	Marshal Stability of the Mix		1 Test/400 tonnes (Min.2 Test)	2	2
8	Binder content and Mix Gradation		1 Test/400 tonnes (Min.2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT ENGINEER

Assistant Executive Engineer
Yelahanka Sub Division
B.B.M.P, Bangalore - 97

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	1
Sample Collection Date	24-Feb-2023
Tested Date	25-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^0C , 1 / 10 mm	48	Min. 45
2	Softening Point, (^{0}C)	49	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^0C, in cm	44	Min. 40
5	Flash Point, (^{0}C)	225	Min. 220

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

123/AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	2
Sample Collection Date	24-Feb-2023
Tested Date	25-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73 - 2013
1	Penetration at 25^{0}C , 1 / 10 mm	51	Min. 45
2	Softening Point, (^{0}C)	48	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	45	Min. 40
5	Flash Point, (^{0}C)	227	Min. 220

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

23.AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregate
Sample No	1
Sample Collection Date	24-Feb-2023
Tested Date	27-Feb-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1338	1342
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	378	382
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	94	88
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	284	294
6	Aggregate Impact Value (w4 / w3)x100	%	24.87	23.04
7	Specified Limit	%	27	

Results: Average Aggregate Impact Value: **23.96 %**

Note:

i. The results indicated above are based on the tests carried out on the sample at site.

ii. The results relate only to the items tested.

iii. This test report should not be reproduced except in full, without written approval of this laboratory.

iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregates
Sample No	1
Sample Collection Date	24-Feb-2023
Tested Date	27-Feb-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1431.36	13.5	111.36	40.5	129.36
20	16	1584.65	10.8	263.65	32.4	290.65
16	12.5	850.21	8.55	45.21	25.6	52.21
12.5	10	481.65	6.75	83.65	20.2	89.65
10	6.3	251.32	4.89	73.32	14.7	80.32
	SW	4599.19	SWf	577.19	SWe	642.19

Flakiness Index 12.88 %
Elongation Index 14.33 %
Combined Flakiness and Elongation Indices : 27.20 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for DBM is 35%.

Note:
i. The results indicated above are based on the tests carried out on the sample at site.
ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

AEE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Stripping Value

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Aggregates / Bitumen
Sample No	1
Tested Date	25-Feb-2023
Type of Aggregate	Coarse Aggregate
Type of Binder	Coarse Aggregate
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.2	3.43	96.57
2	3.8		
3	3.3		

Comments: Minimum allowable Aggregate Stripping Value for Dense Bituminous Macadam is 95%

Note:
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ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report

Specific Gravity and Water Absorption

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Aggregates
Sample No	1
Sample Collection Date	24-Feb-2023
Tested Date	25-Feb-2023

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2044	2057	
3	Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1283	1294	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2079	2082	
5	Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
6	Weight of Oven dried Aggregate	W_4g	2044	2045	
7	Specific Gravity	$W_4/(W_3 - W_s)$	2.57	2.60	2.58
8	Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.69	2.72	2.70
9	Water Absorption	$(W_4 - W_3)*100/W_4$	1.71	1.81	1.76

Comments: Maximum allowable Aggregate Water Absorption value for Dense bituminous Macadam is 2.0%.

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Plant
Material	Aggregates
Sample No	1
Sample Collection Date	24-Feb-2023
Tested Date	27-Feb-2023

Weight of Sample: 10950 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	488.35	4.46	4.46	95.54	90-100	
3	19	1455.36	13.29	17.75	82.25	71-95	
4	13.2	1571.98	14.36	32.11	67.89	56-80	
5	4.75	2206.21	20.15	52.25	47.75	38-54	
6	2.36	1481.54	13.53	65.78	34.22	28-42	
7	0.3	2160.67	19.73	85.52	14.48	7-21	
8	0.075	1125.15	10.28	95.79	4.21	2-8	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Plant
Material	Aggregates
Sample No	2
Sample Collection Date	24-Feb-2023
Tested Date	27-Feb-2023

Weight of Sample: 10890 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	505.87	4.65	4.65	95.35	90-100	
3	19	1481.54	13.60	18.25	81.75	71-95	
4	13.2	1591.28	14.61	32.86	67.14	56-80	
5	4.75	2235.42	20.53	53.39	46.61	38-54	
6	2.36	1505.36	13.82	67.21	32.79	28-42	
7	0.3	2188.24	20.09	87.31	12.69	7-21	
8	0.075	988.47	9.08	96.38	3.62	2-8	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Plant
Material	Aggregates
Sample No	2
Sample Collection Date	24-Feb-2023
Tested Date	27-Feb-2023

Weight of Sample: 10890 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded Bituminous Macadam
2	26.5	505.87	4.65	4.65	95.35	90-100	
3	19	1481.54	13.60	18.25	81.75	71-95	
4	13.2	1591.28	14.61	32.86	67.14	56-80	
5	4.75	2235.42	20.53	53.39	46.61	38-54	
6	2.36	1505.36	13.82	67.21	32.79	28-42	
7	0.3	2188.24	20.09	87.31	12.69	7-21	
8	0.075	988.47	9.08	96.38	3.62	2-8	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tested Date	2-Mar-2023

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.7	9 KN (min)
2	Marshal Flow	mm	4.2	2 – 5 mm
3	Percent of Air Voids in mix	%	4.5	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	72	65 – 75 %
5	Density	g/cc	2.3	-

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

2/3/23

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tested Date	2-Mar-2023

Sl. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.6	9 KN (min)
2	Marshal Flow	mm	4.5	2 – 5 mm
3	Percent of Air Voids in mix	%	4.3	3 - 6
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	69	65 – 75 %
5	Density	g/cc	2.3	-

Note:

i. The results indicated above are based on the tests carried out on the sample at site.
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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	1
Tested Date	2-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1765
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	685
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1735
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	655
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	3
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	1
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	30
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	31
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_b$)	(%)	W_a/ SbX100	4.53

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
2	26.5	37.63	5.75	5.75	94.25	90-100	
3	19	74.25	11.34	17.08	82.92	71-95	
4	13.2	99.87	15.25	32.33	67.67	56-80	
5	4.75	95.47	14.58	46.90	53.10	38-54	
6	2.36	78.14	11.93	58.83	41.17	28-42	
7	0.3	135.47	20.68	79.52	20.48	7-21	
8	0.075	92.54	14.13	93.64	6.36	2-8	

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Dense Graded Bituminous Macadam (DBM)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Sample No	2
Tested Date	2-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1769
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	689
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1738
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	658
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	3
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	1
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	31
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	32
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	4.64

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	37.5	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Specification for Dense graded biyuminous macadam
2	26.5	30.25	4.60	4.60	95.40	90-100	
3	19	78.45	11.92	16.52	83.48	71-95	
4	13.2	104.63	15.90	32.42	67.58	56-80	
5	4.75	99.34	15.10	47.52	52.48	38-54	
6	2.36	85.14	12.94	60.46	39.54	28-42	
7	0.3	135.25	20.55	81.01	18.99	7-21	
8	0.075	80.29	12.20	93.21	6.79	2-8	

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Project Management Consultancy Services

Summary of Frequencies of Field Tests and Lab Tests Conducted

Name of the work: **Package No.06 Consists of 14 Works**

Job No: **MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR**

Contractor **M/s SMLP Aspahalts**

Sl. No	Particulars of the Tests	Bituminous Concrete (BC)			
		Quantity Cum	Frequency of Tests	Tests Required	Tests Carried Out
1	Quality of Binder	45.87	2 Test / lot	2	2
2	Rate of Spread of Tack Coat/ Prime Coat		3 Test / Day	3	3
3	Aggregate Impact Value		1 Test / 350 m^3	1	1
4	Combined Flakiness & Elongation Indices		1 Test / 350 m^3	1	1
5	Aggregate Stripping Value		1Test / Source of Supply	1	1
6	Specific Gravity & Water Absorption of Aggregates		1Test / Source of Supply	1	1
7	Aggregate gradation		2 Test / day	2	2
8	Marshal Stability of the Mix		1 Test/400 tonnes (Min. 2 Test)	2	2
9	Binder content and Mix Gradation		1 Test/400 tonnes (Min. 2 Test)	2	2

Note: Frequency of tests as per Specifications MORT&H, V Revision, Section 900.

Consultant

Contractor

ASSISTANT ENGINEER

ASSISTANT EXE ENGINEER

Assistant Executive Engineer
Vidyaranyepura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	1
Sample Collection Date	26-Feb-2023
Tested Date	27-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	56	Min. 45
2	Softening Point, (^{0}C)	52	Min. 47
3	Specific Gravity	0.99	Min. 0.97
4	Ductility at 27^{0}C, in cm	59	Min. 40
5	Flash Point, (^{0}C)	224	Min. 220

Note:

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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Private Limited

Authorised Signature

W3-AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Quality of Bitumen

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 73 – 2013 (Paving Bitumen) & Specification for Road & Bridge Works, MORT&H, Revision V.
Grade of Bitumen	VG30
Location	Hot Mix Plant
Material	Bitumen
Sample No	2
Sample Collection Date	26-Feb-2023
Tested Date	27-Feb-2023

Sl. No.	Description	Test Results	Requirement as per IS:73-2013
1	Penetration at 25^{0}C , 1 / 10 mm	52	Min. 45
2	Softening Point, (^{0}C)	49	Min. 47
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^{0}C, in cm	56	Min. 40
5	Flash Point, (^{0}C)	227	Min. 220

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

RR3 AE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Rate of Spread of Tack Coat

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	1
Tested Date	4-Mar-2023

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.65	1.653	1.652
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.009	0.012	0.011
6	Rate of spread (d/a)	kg / m^2	0.225	0.3	0.275
7	Average	kg / m^2	0.267		
8	Specified Limit	kg / m^2	Not less than 0.25 kg / m^2		

Results: Rate of Spread of Tack Coat is: 0.267 kg / m2

Note:

i. The results indicated above are based on the tests carried out on the sample at site.
ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

183/BBR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Rate of Spread of Tack Coat

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	2
Tested Date	4-Mar-2023

Sl. No.	Determination	Unit	Test No 2		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.654	1.651
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.011	0.013	0.01
6	Rate of spread (d/a)	kg / m^2	0.275	0.325	0.25
7	Average	kg / m^2	0.283		
8	Specified Limit	kg / m^2	Not less than 0.25 kg / m^2		

Results: Rate of Spread of Tack Coat is: 0.283 kg / m2

Note:

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ii. The results relate only to the items tested.
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For Mecadez Core Technologies Private Limited

Authorised Signature

4-3-23

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Rate of Spread of Tack Coat

Project Name Package No.06 Consists of 14 Works

Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Location	At Site
Material	Bitumen (Tack Coat)
Sample No	3
Tested Date	4-Mar-2023

Sl. No.	Determination	Unit	Test No 3		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.652	1.652	1.654
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.011	0.011	0.013
6	Rate of spread (d/a)	kg / m^2	0.275	0.275	0.325
7	Average	kg / m^2	0.292		
8	Specified Limit	kg / m^2	Not less than 0.25 kg / m^2		

Results: Rate of Spread of Tack Coat is: 0.292 kg / m2

Note:

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ii. The results relate only to the items tested.
iii. This test report should not be reproduced except in full, without written approval of this laboratory.
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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Impact Value

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregate
Sample No	1
Sample Collection Date	26-Feb-2023
Tesed Date	3-Mar-2023

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1401	1395
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	441	435
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	93	92
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	348	343
6	Aggregate Impact Value (w4 / w3)x100	%	21.09	21.15
7	Specified Limit	%	24	

Results: Average Aggregate Impact Value: **21.12** %

Note:

i. The results indicated above are based on the tests carried out on the sample at site.

ii. The results relate only to the items tested.

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Particle Shape

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	26-Feb-2023
Teested Date	3-Mar-2023

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	0	19.5	0	58.5	0
31.5	25	0	16.95	0	-	0
25	20	1589.37	13.5	269.37	40.5	287.37
20	16	1381.45	10.8	60.45	32.4	87.45
16	12.5	995.42	8.55	190.42	25.6	197.42
12.5	10	505.26	6.75	107.26	20.2	113.26
10	6.3	284.87	4.89	106.87	14.7	113.87
	SW	4756.37	SWf	734.37	SWe	799.37

Flakiness Index	15.44	%
Elongation Index	16.81	%

Combined Flakiness and Elongation Indices : 32.25 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for Bituminous Concrete is 35%.

Note:

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iv. Any query regarding the report must be reported immediately.

For Mecadez Core Technologies Private Limited

Authorised Signature

183 BM-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Stripping Value

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 6241 - 1971 & Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Coarse Aggregates / Bitumen
Sample No	1
Tesed Date	27-Feb-2023
Type of Aggregate	Coarse Aggregate
Type of Binder	60 / 70 Grade
Percentage of Binder Used	5% by weight
Total weight of Aggregate	200 gms
Total weight of Binder	10 gms
Temperature of water bath	40^0C

Observation Number	Stripping Percentage	Average Percentage	Average Retained Coating (%)
1	3.4	3.3	96.7
2	3.3		
3	3.2		

Comments: Minimum allowable Aggregate Stripping Value for Bituminous Concrete is 95%

Note:
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For Mecadez Core Technologies Private Limited

Mecadez Core Technologies Private Limited

Authorised Signature

AE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report

Specific Gravity and Water Absorption

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test	IS: 2386 (Part - 111) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sapmle Collection Date	26-Feb-2023
Tested Date	27-Feb-2023

Sl. No.	Particulars	Computations	Test Numbers		Mean
			Test 1	Test 2	
1	Weight of Empty Basket Immersed in Water	W_1 g	761	763	
2	Wt of Basket Filled with Aggregates Immersed in water	W_2g	2078	2054	
3	Weight of Saturated Aggregate in water	$W_s g = W_2 - W_1$	1317	1291	
4	Weight of saturated surface dry aggregate in Air	W_3 g	2113	2079	
5	Weight of water equal to the Volume of the Aggregate	$W_3 - W_s$	796	788	
6	Weight of Oven dried Aggregate	W_4g	2075	2048	
7	Specific Gravity	$W_4/(W_3 - W_s)$	2.61	2.60	2.60
8	Apparent Specific Gravity	$W_4/(W_4 - W_s)$	2.74	2.71	2.72
9	Water Absorption	$(W_4 - W_3)*100/W_4$	1.83	1.51	1.67

Comments: Maximum allowable Aggregate Water Absorption value for Bituminous Concrete is 2.0%.

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

BTP-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Laboratory
Material	Coarse Aggregates
Sample No	1
Sample Collection Date	26-Feb-2023
Tested Date	3-Mar-2023

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	178.25	4.46	4.46	95.54	90-100	
3	9.50	615.42	15.39	19.84	80.16	70-88	
4	4.75	715.87	17.90	37.74	62.26	53-71	
5	2.36	545.39	13.63	51.37	48.63	42-58	
6	1.18	367.14	9.18	60.55	39.45	34-48	
7	0.60	351.88	8.80	69.35	30.65	26-38	
8	0.30	328.74	8.22	77.57	22.43	18-28	
9	0.15	275.54	6.89	84.46	15.54	12-20	
10	0.075	395.48	9.89	94.34	5.66	4-10	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

PKE-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Aggregate Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Hot Mix Plant
Material	Coarse Aggregates
Sample No	2
Sample Collection Date	26-Feb-2023
Tested Date	3-Mar-2023

Weight of Sample: 4000 gms

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	174.36	4.36	4.36	95.64	90-100	
3	9.50	605.41	15.14	19.49	80.51	70-88	
4	4.75	705.65	17.64	37.14	62.86	53-71	
5	2.36	545.39	13.63	50.77	49.23	42-58	
6	1.18	355.77	8.89	59.66	40.34	34-48	
7	0.60	341.25	8.53	68.20	31.80	26-38	
8	0.30	325.98	8.15	76.35	23.65	18-28	
9	0.15	277.54	6.94	83.28	16.72	12-20	
10	0.075	395.41	9.89	93.17	6.83	4-10	

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Bituminous Concrete mix
Sample No	1
Tesed Date	4-Mar-2023

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	9.2	9 KN (min)
2	Marshal Flow	mm	3.5	2 – 4 mm
3	Percent of Air Voids in mix	%	4.3	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	67	65 – 75 %
5	Density	g/cc	2.29	-

Note:

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For Mecadez Core Technologies Private Limited

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Stability of Mix

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Bituminous Concrete mix
Sample No	2
Tesed Date	4-Mar-2023

Sl. No.	Description	Unit	Test 2	Requirements as per MORT&H
1	Marshal Stability	KN	9.6	9 KN (min)
2	Marshal Flow	mm	3.6	2 – 4 mm
3	Percent of Air Voids in mix	%	4.5	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	71	65 – 75 %
5	Density	g/cc	2.33	-

Note:

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For Mecadez Core Technologies Private Limited

Authorised Signature

Assistant Executive Engineer
Vidyaranyapura Sub Divi...
B.B.M.P, Bangalore - 9...

Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Bituminous Concrete mix
Sample No	1
Tesed Date	4-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1878
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	798
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1836
5	Weight of Sample after extraction (i.e. washed aggregates)	gm	$S_a = w_{sa} - Eb$	756
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	42
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b + F_d$	44
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	$W_a / SbX100$	5.51

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19	0	0	0	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.2	42.54	5.63	5.63	94.37	90-100	
3	9.5	129.63	17.15	22.77	77.23	70-88	
4	4.75	128.57	17.01	39.78	60.22	53-71	
5	2.36	99.85	13.21	52.99	47.01	42-58	
6	1.18	75.64	10.01	62.99	37.01	34-48	
7	0.6	67.36	8.91	71.90	28.10	26-38	
8	0.3	71.45	9.45	81.35	18.65	18-28	
9	0.15	39.87	5.27	86.63	13.37	12-20	
10	0.075	60.14	7.96	94.58	5.42	4-10	

For Mecadez Core Technologies Private Limited

Authorised Signature

AR-09

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Test Report
Binder Content and Mix Gradation

Project Name	Package No.06 Consists of 14 Works
Client	Executive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Laboratory
Material	Bituminous Concrete mix
Sample No	2
Tesed Date	4-Mar-2023

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1873
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	795
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1831
5	Weight of Sample after extraction (i.e. washed	gm	$S_a = w_{sa} - Eb$	751
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	42
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	44
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.55

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19	0	0.00	0.00	100.00	100	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.2	45.87	6.11	6.11	93.89	90-100	
3	9.5	115.39	15.36	21.47	78.53	70-88	
4	4.75	145.51	19.38	40.85	59.15	53-71	
5	2.36	81.79	10.89	51.74	48.26	42-58	
6	1.18	99.42	13.24	64.98	35.02	34-48	
7	0.6	55.43	7.38	72.36	27.64	26-38	
8	0.3	49.65	6.61	78.97	21.03	18-28	
9	0.15	45.36	6.04	85.01	14.99	12-20	
10	0.075	64.53	8.59	93.60	6.40	4-10	

For Mecadez Core Technologies Private Limited

Authorized Signature

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Mecadez Core Technologies Private Limited

Temperature Record Log Sheet

Project Name Package No.06 Consists of 14 Works

Client Executive Engineer - Byatarayanapura Division

Job No MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR

Mix Type Dense Graded Bituminous Macadam(DBM)

Contractor M/s SMLP Aspahalts

Date: 2-Mar-2023

Sl No	Tipper No	Time	Cleaning of the Surface	Application of Tackcoat	Mix Laying Temperature (C^0)	Mix Rolling Temperature (C^0)	Depth of the Mix Before Rolling (mm)	Depth of the Mix After Rolling (mm)	Remarks
1	KA51 BD 7010	1:30PM	Yes	Yes	142.6	92.1	66	50	
2	KN2 BY 7282	2:00PM	Yes	Yes	144.7	92.7	65	50	
3	KA05 AB 412	2:25PM	Yes	Yes	142.4	91.6	67	50	
4	KA51 BD 7010	3:PM	Yes	Yes	143.9	93.4	65	50	

Mecadez Core Technologies Pvt. Ltd.

Consultant Representative

Asst Engineer
Ward No. 09
BBMP

Asst Executive Engineer
Vidyaranyapura Sub Division
BBMP

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

For Mecadez Core Technologies Private Limited
Temperature Record Log Sheet

Project Name	Package No.06 Consists of 14 Works
Client	Excecutive Engineer - Byatarayanapura Division
Job No	MCTPL/BBMP/EE/BTP/PMC/W-09/P-3877/2022-23/QR
Mix Type	Bituminous Concrete (BC)
Contractor	M/s SMLP Aspahalts
Date:	4-Mar-2023

Sl No	Tipper No	Time	Cleaning of the Surface	Application of Tackcoat	Mix Laying Temperature (C^0)	Mix Rolling Temperature (C^0)	Depth of the Mix Before Rolling (mm)	Depth of the Mix After Rolling (mm)	Remarks
1	KA51 BD 7010	2:00PM	Yes	Yes	142.6	92.1	54	40	
2	KN2 BY 7282	2:30PM	Yes	Yes	141.8	93.7	53	40	
3	KA05 AB 412	2:55PM	Yes	Yes	144.5	95.7	54	40	

Core Technologies Private Limited MECADEZ

Consultant Representative

Asst Engineer
Ward No. 09
BBMP

Asst Executive Engineer
Vidyarayanapura Sub Division
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